# Fluoroquinolone-Resistant *Campylobacterlobacter* Infections in the United States, 1997-2000: National Antimicrobial Resistance Monitoring System's Data Lead to Regulatory Action

*Gupta A, Rossiter S, McClellan J, Stamey K, Barrett T, Angulo F, and the NARMS Working Group*

**Background**: *Campylobacter* causes an estimated 2.4 million illnesses in the United States each year. Poultry is a common source of human Campylobacter infections. Fluoroquinolones (FQ), which are commonly used to treat *Campylobacter* infections in humans, were approved for use in poultry in 1995. We determined the prevalence of FQ resistance in *Campylobacter* isolates from poultry and ill humans, and explored risk factors for human infections.

**Methods**: State health departments participating in the National Antimicrobial Resistance Monitoring System (NARMS) for enteric bacterial submitted Campylobacter isolates from ill humans and grocery store purchased chicken to CDC. CDC performed FQ resistance testing using E-test. A random sample of patients with *Campylobacter* isolates in 1998-99 from participating NARMS sites were interviewed.

**Results**: From 1997 to 2000, 1003 human *Campylobacter* isolates were tested; 15% were FQ resistant. From 1998-1999, 180 poultry specimens were tested; Campylobacter was isolated from 80 (44%); strains from 19 (24%) were FQ resistant. Between 1998 and 1999, 213 patients were interviewed. FQ resistance was associated with international travel in the seven days before illness onset (relative risk = 4.43, 95% confidence interval = 2.19-8.94). Nevertheless, 64% (16 of 25) of persons with FQ-resistant infections did not travel outside the United States. Among non-travelers, 62% (10 of 16) with FQ-resistant and 64% (111 of 173) with FQ-susceptible *Campylobacter* infections ate poultry in the week before becoming ill.

**Conclusions**: FQ resistance among *Campylobacter* isolates from ill humans and grocery store purchased poultry is common. The majority of FQ-resistant infections in humans were acquired domestically. These and other data contributed to a recent Food and Drug Administration (FDA) risk assessment that concluded that FQ use in poultry is contributing to FQ-resistant *Campylobacter* infections in humans. Subsequently, in December 2000, FDA proposed withdrawing the use of FQ in chickens and turkeys.

**Key Words**: *Campylobacter*, fluoroquinolones, antibiotic resistance, United States

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